

2. Identify and survey participants of the recreational bay scallop fishery.
3. Expand the current independent sampling in Carteret County to improve estimates of the population abundance and spawning condition of the stock.
4. Quantify high and low productive areas of bay scallop abundance.
5. Improve genetic information to determine conclusively how many separate stocks exist in North Carolina.
6. Investigate other sampling designs to estimate population abundance.
7. Establish a specific abundance estimate trigger to open the harvest season.
8. Expand on our understanding of bay scallop dredging on SAV condition and bay scallop recruitment.
9. Determine minimum stock size needed to support bay scallop population.
10. Understand complex combination of physical, chemical, and biological factors that cause red tide blooms, and support research to predict future outbreaks.
11. Planning for future red tide outbreaks.
12. Collect population information on cownose rays.
13. Investigate uses of cownose rays for food in the industrial reduction and the human food industries.
14. Investigate uses of cownose rays as a source of chondroitin/glucosamine or oil for pet and human supplements.
15. Investigate market development for cownose rays.
16. Investigate the start up cost for a bay scallop hatchery.
17. Determine the amount of seed required to restore the bay scallop population.
18. Determine placement, size, and impacts to the local fishing grounds for bay scallop sanctuaries.

10.3 REVIEW CYCLE

As provided in the FRA of 1997, the Bay Scallop Fishery Management Plan will be reviewed and revised at least every five years with the support of advisors.

11.0 LITERATURE CITED

- Ambrose, W. G. Jr. and E. A. Irlandi. 1992. Height of attachment on seagrass leads to trade-off between growth and survival in the bay scallop *Argopecten irradians*. Marine Ecology Progress Series. 90(1): 45-51.
- Andrews, J. D. 1973. Effects on Tropical Storm Agnes on epifaunal invertebrates in Virginia estuaries. Chesapeake Science. 14(4): 223-234.
- Arnold, W. S., D. C. Marelli, C. P. Bray, and M. M. Harrison. 1998. Recruitment of bay scallops *Argopecten irradians* in Floridian Gulf of Mexico waters: scales of coherence. Marine Ecology Progress Series. 170: 143-157.